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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/588,659	08/07/2006	Hiroaki Yanagita	Q96380	9256
23373 7590 04/23/2009 SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037				
EXAMINER GARRITY, DIANA C				
ART UNIT		PAPER NUMBER		
2814				
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04/23/2009		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

**Advisory Action
Before the Filing of an Appeal Brief**

Application No.

10/588,659

Applicant(s)

YANAGITA ET AL.

Examiner

DIANA C. GARRITY

Art Unit

2814

--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED 31 March 2009 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.

1. ☒ The reply was filed after a final rejection, but prior to or on the same day as filing a Notice of Appeal. To avoid abandonment of this application, applicant must timely file one of the following replies: (1) an amendment, affidavit, or other evidence, which places the application in condition for allowance; (2) a Notice of Appeal (with appeal fee) in compliance with 37 CFR 41.31; or (3) a Request for Continued Examination (RCE) in compliance with 37 CFR 1.114. The reply must be filed within one of the following time periods:

- a) ☒ The period for reply expires 3 months from the mailing date of the final rejection.
b) ☐ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.
Examiner Note: If box 1 is checked, check either box (a) or (b). ONLY CHECK BOX (b) WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

NOTICE OF APPEAL

2. ☐ The Notice of Appeal was filed on _____. A brief in compliance with 37 CFR 41.37 must be filed within two months of the date of filing the Notice of Appeal (37 CFR 41.37(a)), or any extension thereof (37 CFR 41.37(e)), to avoid dismissal of the appeal. Since a Notice of Appeal has been filed, any reply must be filed within the time period set forth in 37 CFR 41.37(a).

AMENDMENTS

3. ☐ The proposed amendment(s) filed after a final rejection, but prior to the date of filing a brief, will not be entered because
(a) ☐ They raise new issues that would require further consideration and/or search (see NOTE below);
(b) ☐ They raise the issue of new matter (see NOTE below);
(c) ☐ They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
(d) ☐ They present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: _____. (See 37 CFR 1.116 and 41.33(a)).

4. ☐ The amendments are not in compliance with 37 CFR 1.121. See attached Notice of Non-Compliant Amendment (PTOL-324).
5. ☐ Applicant's reply has overcome the following rejection(s): _____.
6. ☐ Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).
7. ☒ For purposes of appeal, the proposed amendment(s): a) ☐ will not be entered, or b) ☒ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.

The status of the claim(s) is (or will be) as follows:

Claim(s) allowed: _____

Claim(s) objected to: _____

Claim(s) rejected: see Final Rejection (12/31/08)

Claim(s) withdrawn from consideration: _____

AFFIDAVIT OR OTHER EVIDENCE

8. ☐ The affidavit or other evidence filed after a final action, but before or on the date of filing a Notice of Appeal will not be entered because applicant failed to provide a showing of good and sufficient reasons why the affidavit or other evidence is necessary and was not earlier presented. See 37 CFR 1.116(e).
9. ☐ The affidavit or other evidence filed after the date of filing a Notice of Appeal, but prior to the date of filing a brief, will not be entered because the affidavit or other evidence failed to overcome all rejections under appeal and/or appellant fails to provide a showing a good and sufficient reasons why it is necessary and was not earlier presented. See 37 CFR 41.33(d)(1).
10. ☐ The affidavit or other evidence is entered. An explanation of the status of the claims after entry is below or attached.

REQUEST FOR RECONSIDERATION/OTHER

11. ☒ The request for reconsideration has been considered but does NOT place the application in condition for allowance because:
See Continuation Sheet
12. ☐ Note the attached Information Disclosure Statement(s). (PTO/SB/08) Paper No(s). _____
13. ☐ Other: _____

/Diana C Garrity/
Examiner, Art Unit 2814

/Anh D. Mai/
Primary Examiner, Art Unit 2814

Continuation of 11, does NOT place the application in condition for allowance because: Regarding Polarity:

Applicant remarks, "Dimitrova does not disclose or suggest that the phosphors have semiconductor properties.... Further... one cannot presume whether the phosphor exhibits p-type or n-type properties.... Namely, the Examiner is using improper hindsight in finding that the phosphors of Dimitrova (1) have semiconductor properties, and (2) are p-type semiconductors."

Regarding (1), Dimitrova describes ZnS used as a phosphor thin film for an electroluminescent device (Introduction, paragraph 1). It is very well known in the art that ZnS as used as a phosphor film in an electroluminescent device has semiconductive properties, and that ZnS in general is well known as a semiconductive material.

Regarding (2), Examiner maintains that the amounts of Cu and Cl as used in the ZnS:CuCl₂ material of Dimitrova inherently create a p-type semiconductive device due to the respective amounts and dopant activity.

In both Applicant amendments mailed 3/31/09 and 10/20/08, Applicant has argued that it is known that an activation rate of Cl is higher than that of Cu. In the response mailed 12/31/08, Examiner stated "Examiner concedes that Cl dopant activity is higher than that of Cu, but requires proof that Cl activity is actually ten times that of Cu [as stated in previous mailing]. Until then, because [Dimitrova teaches] the concentration of copper is greater than that of [chlorine], it will be understood that the material as described by Dimitrova is p-type."

Cu is a known dopant to cause p-type doping, and Cl is a known dopant to cause n-type doping. The concentration of Cu is shown to be significantly greater than that of Cl in the material (Dimitrova: Table 1). Applicant has stated that the activation level of Cl is greater than that of Cu, but without a numerical verification of the exact amount that Cl is more active than Cu, the judgment for doping is maintained to be primarily determined by the respective concentrations. It is still to be shown the extent to which Cl activation is higher than that of Cu. Therefore, the greater amount of Cu is understood to one of ordinary skill in the art at the time of the invention to inherently render the ZnS a p-type material. Therefore, Applicant's argument is not persuasive.

Regarding Composition:

Applicant states "Cu doping is utilized so as to maintain the stoichiometric composition, which is an essential configuration of the present invention."

However, nowhere in the specification is the stoichiometric expression deemed critical. The exact relation of zinc to copper was never maintained in the specification and thus was never established to be critical. Therefore, the stoichiometric expression that was experimentally derived is no more than an optimization of the ratios as cited in Dimitrova. "Generally, differences in concentration or temperature will not support the patentability of subject matter encompassed by the prior art unless there is evidence indicating such concentration or temperature is critical. "[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation." In re Aller, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955)"

Although Applicant states that Dimitrova does not satisfy the presently claimed stoichiometric composition, Examiner maintains that Dimitrova satisfies the claimed stoichiometric composition to the precision as presented in the specification. Therefore, the applicant's argument is not persuasive.

Regarding Object and Function:

As explained above, Dimitrova teaches the same structural limitations, thus any argument concerning the intended use is moot. "A claim containing a "recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus" if the prior art apparatus teaches all the structural limitations of the claim. Ex parte Masham, 2 USPQ2d 1647 (Bd. Pat. App. & Inter. 1987)."

Therefore, applicant's argument is not persuasive..